

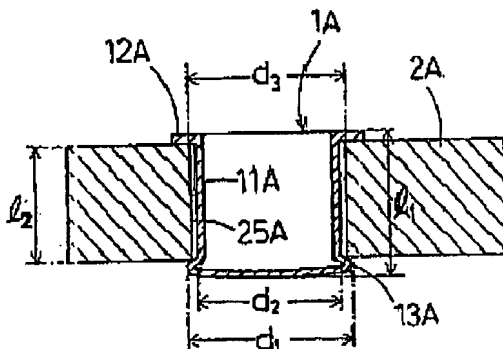
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y 31, 2007 has been carefully considered. Claim

Specifically and as supported by the non-limiting example of Fig. 2, reproduced below, claims 2 recites that:

- Collar 13A and/or flange 12A “deform[s] for insertion,” as each has a greater circumference than the hole per claim language quoted below;
- The collar is outside the hole and has a “greater circumference than the hole at said first side of the part” (emphasis added). See diameters d_1 and d_3 and note that collar 13A extends laterally beyond the hole at the first side (the bottom) of part 2A; and
- The flange also is outside the hole and has “a circumference greater than the hole at said second side of the part” (emphasis added). See flange 12A extending laterally beyond the hole at the second side (the top) of part 2A.

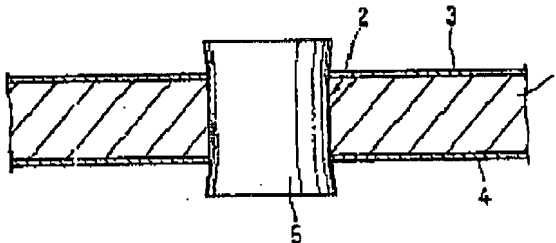


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These claimed features are missing from Kano, et al. U.S. Patent 4,871,585, as evident from Fig. 1 reproduced below together with text from column 4, lines 13-23. In particular:

- Member 5 does not “deform for insertion” into hole 2 because it has “a diameter which is equal or somewhat smaller” than hole 2 at the time of insertion;
- Member 5 does not appear to have a collar at the bottom of board 1. After it has been inserted in hole 2, member 5 swells in a subsequent water-application step, to gradually expand laterally, but no teaching could be found that it forms a collar with a circumference greater than the hole at the bottom of board 1. Fig. 1 does not appear to show a greater circumference at the bottom of board 1. (Layers 3 and 4 appear to be coatings applied after member 5 is inserted.); and
- Member 5 does not appear to have a flange at the top of board 1. Again, while after insertion and water-application member 5 swells and gradually expands laterally, no teaching could be found that its circumference is greater than hole 2 at the top of board 1.



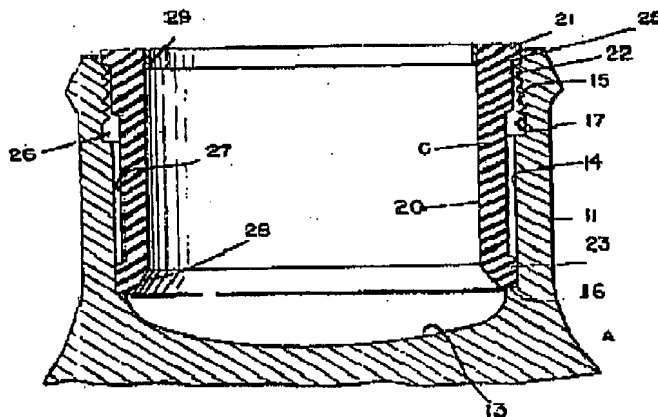
First, a masking member 5 made of water swelling rubber is prepared, said masking member 5 having a diameter which is equal to or somewhat smaller than the diameter of the through-hole 2. The masking member 5 is intended to be inserted into the through-hole 2, and as a result of the swelling which takes place in the subsequent step, the masking member is pressed against the inner peripheral surface of the through-hole 2, thereby preventing the inner peripheral surface of the through-hole 2 from being formed with a plated coating.

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Duggan U.S. Patent 2,328,203 also does not appear to teach the features recited in claim 2 that are missing from the primary reference as discussed above. As seen in Fig. 2 of Duggan, reproduced below:

- Rib 21 of mask C appears to have the same circumference as the inside diameter of upper portion 25 of throat 11 in which it fits;
- Rib 23 appears to have the same circumference as inner surface 14 against which it abuts; and
- Neither of ribs 21 and 23 has a greater circumference than the opening in part 11 at the bottom or top surface of part 11.



Applicants submit that in fact Duggan teaches away from the claimed invention in that although it shows a mask C with ribs 21, 23, it does not show those ribs extending laterally beyond a hole at the top or bottom of the part, and thus does not show ribs that would protect any of the top and bottom surfaces of a part. Similarly, the primary reference (Kano, et al.) only shows a member that does not protect the top or bottom of a part at the surface of the top or bottom. A person skilled in the art would not have found either reference to suggest extending the circumference of a masking member laterally at to top or bottom of a part, to cover and protect top or bottom areas surrounding the hole laterally at the top or bottom of the part.

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For these reasons, applicants submit that the masking member of claim 2 is different from the teachings of the applied references both in structure and in the way it fits and cooperates with a part that has a hole.

The additional secondary reference, Horiki, et al., was cited for its showing of multiple insertion members in a single sheet. Applicants agree that it contains that teaching but submit that it does not detract from the differences between claim 2 and the two other references discussed above.

Applicants have corrected a typing error in the dependency of claims 5, 7, and 9. As the Examiner apparently assumed, they depend from parent claim 2 rather than canceled claim 1. It is submitted that this correction does not require a new search or examination or extensive work on the part of the Office.

All other claims depend from claim 2. Although applicants believe that they recite additional patentable differences, there should be no need to discuss them further in light of the discussion above of parent claim 2.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition. The Patent Office is hereby authorized to charge any fees that are required in connection with this amendment and to credit any overpayment to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,



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